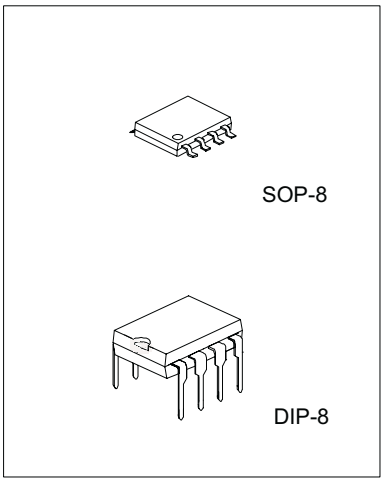
MC4558 LINEAR INTEGRATED CIRCUIT

DUAL OPERATIONAL AMPLIFIER



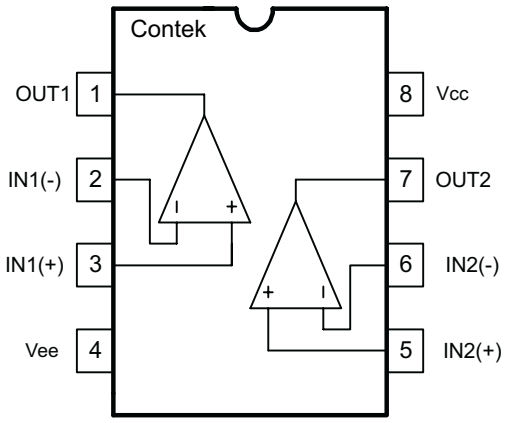
DESCRIPTION

The Contek MC4558 is a monolithic integrated circuit designed for dual operational amplifier.

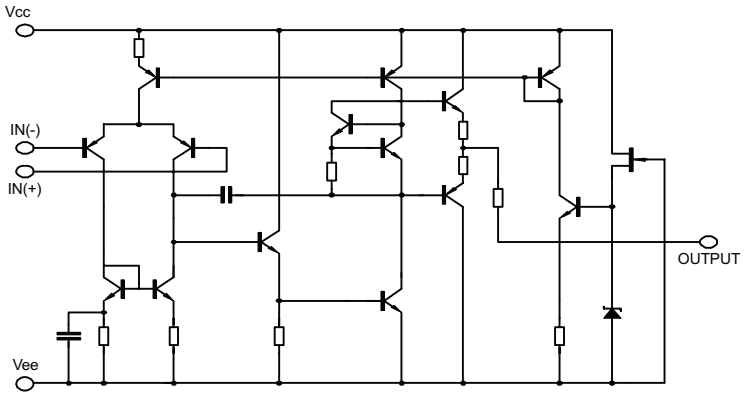
FEATURES

*No frequency compensation required
*No latch-up
*Large common mode and differential voltage range
*Parameter tracking over temperature range
*Gain and phase match between amplifiers
*Internally frequency compensated
*Low noise input transistors

PIN CONFIGURATIONS



BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	VALUE	UNIT
Supply Voltage	V_{CC}	22	V
Differential input voltage	$V_{I(DIFF)}$	18	V
Power Dissipation DIP-8	P_D	600	mW
SOP-8	P_D	400	mW
Input Voltage	V_I	15	V
Operating Temperature	T_{OPR}	0 ~ +70	C
Storage Temperature	T_{STG}	-65 ~ +150	C

ELECTRICAL CHARACTERISTICS(Ta=25 C ,Vcc=15V,Vee=-15V)

PARAMETER	SYMBOL	TEST CONDUCTION	MIN	TYP	MAX	UNIT
Supply Current	Icc			3.5	5.6	mA
Input offset voltage	V_{IO}	Rs<10kΩ		2	6	mV
Input offset current	I_{IO}			5	200	nA
Input bias current	I_{BIAS}			30	500	nA
Large signal voltage gain	Gv	Vo(p-p)=10V,R_L<2kΩ	20	200		V/mV
Common Mode Input Voltage Range	$V_{I(R)}$		+-12	+-13		V
Common Mode Rejection Ratio	CMRR	Rs<10kΩ	70	90		dB
Supply Voltage Rejection Ratio	PSRR	Rs<10kΩ	76	90		dB
Output Voltage swing	Vo(p-p)	R_L>10kΩ		+-12	+-14	V
Power Consumption	Pc			70	170	mV
Slew Rate	SR	Vi=10V,R_L>2kΩ,C_L<100pF	1.2			V/μs
Rise Time	T_{RIS}	Vi=20mV,R_L>2kΩ,C_L<100pF		0.3		μs
Overshoot	OS	Vi=20mV,RL>2kΩ,C_L<100pF		15		%

TYPICAL PERFORMANCE CHARACTERISTICS

Fig. 1 Burst Noise vs Rs

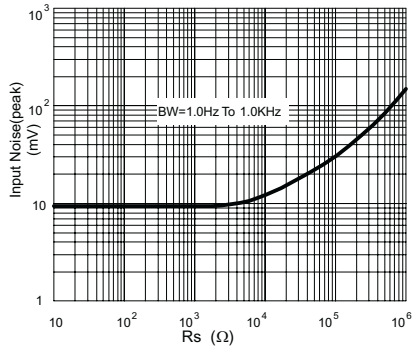


Fig. 2 RMS Noise vs Rs

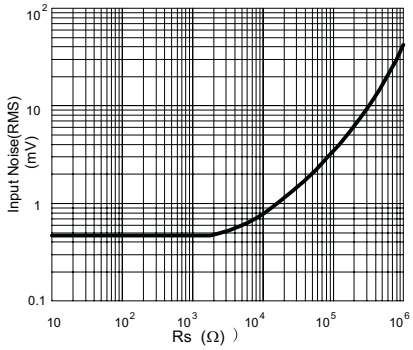


Fig. 3 Output Noise vs Rs

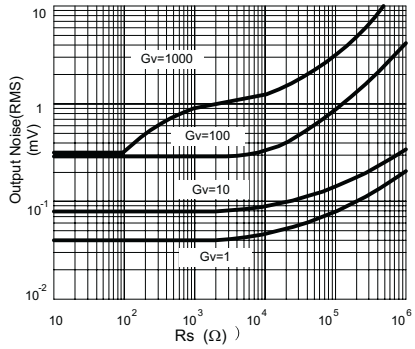


Fig. 4 Spectral Noise Density

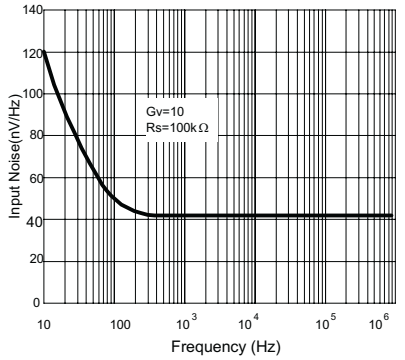


Fig. 5 Open loop frequency response

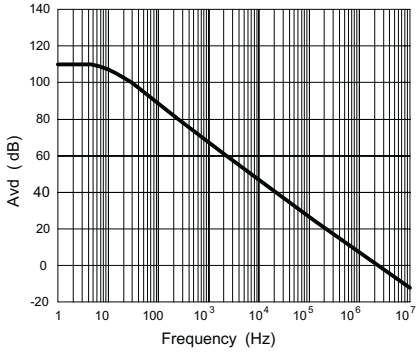


Fig. 6 PHASE MARGIN vs FREQUENCY

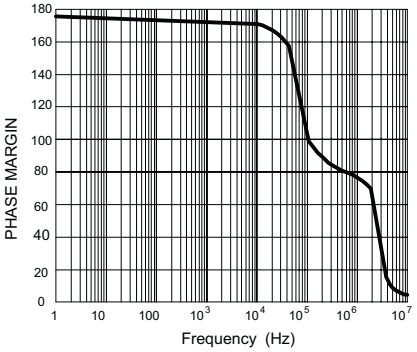


Fig.7 Positive output voltage swing vs Load resistance

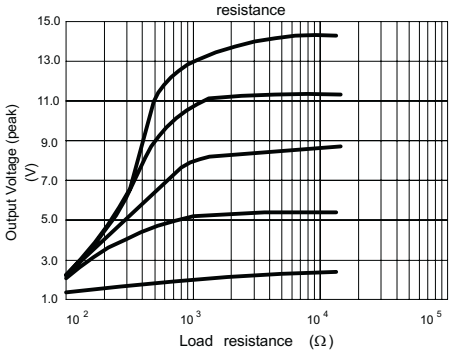


Fig.8 Power Bandwith(Large Signal)